

4.1.2) Error Messages

Error Messages appear on the screen when a user does one of the following: tries to use an expired cup, tries to use a cup with no RFID tag, does not place the cup directly under the soda valve and on the grate, or tries to refill his cup too quickly after the cup's last fill. Each error message is shown below with a brief description.



This error message appears when a user tries to use an expired cup. Depending on how your organization's program is set up, the user may have run out of refills, is trying to use the cup outside of the allotted time, or trying to use the cup past its expiration date.



This error message can appear for one of two reasons: 1) Either the user is trying to use a cup that does not have an RFID tag, 2) The cup is not directly under the soda valve and on the grate.



This error message appears when a user tries to refill his or her cup too quickly after the previous fill. The Validfill system is set up so that a user can only refill their cup once per given unit of time (the standard is 5 minutes).



This error message appears when a user tries to use a cup that has an RFID tag on it that is not programmed to work with your organization's system. An example would be a Disney Cup was being used at Busch Gardens.

4.2) The Cup Info Card

The Validfill system provides you with the ability to get detailed information on any customer's specific cup. The info card makes the following information available:

- Cup Type (Hot or Cold)
- Cup Size (in Ounces)
- Company
- Location
- Date Purchased
- Location Purchased
- Number of Times Used
- Number of Refills Remaining (Date or Specific #)
- Time of Last Use



All of this information is displayed on the Cup Info Screen. This screen can be accessed at any time using a cup Info Card and any Whirley-DrinkWorks' mug that has been assigned an RFID tag. To see the Cup Info Screen, please follow the following steps:

1. Place your Info Card onto the drip tray under any of the soda valves.
2. Press the dispense button on the valve directly above the Info Card.
3. The following pop-up message will appear:



4. Take the Info Card off of the drip tray and replace it with the cup you are trying to gain information about. The cup must be placed under the same valve that the Info Card was under.

5. Press the dispense button.



6. The Cup Info Screen should appear on the monitor with detailed information about that cup as seen below:
7. To clear the Cup Info Screen, remove the cup from the tray and press the dispense button again.

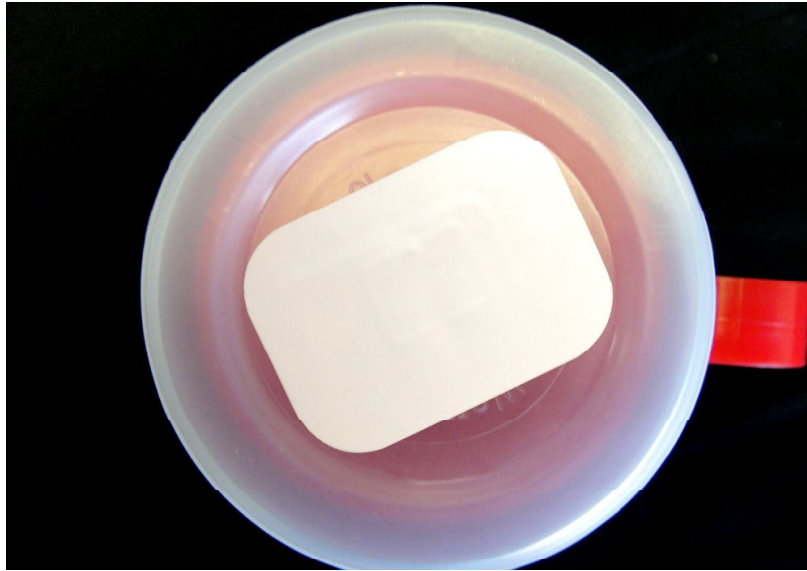
4.3) Placing Tags on Disposable Cups

In order to insure proper function of disposable cups it is imperative that all tags be placed in the exact center of the cup. Any deviation may cause your disposable cups to be misread or not read at all by the system.

The following are examples of the correct way to center the tag and the incorrect way:

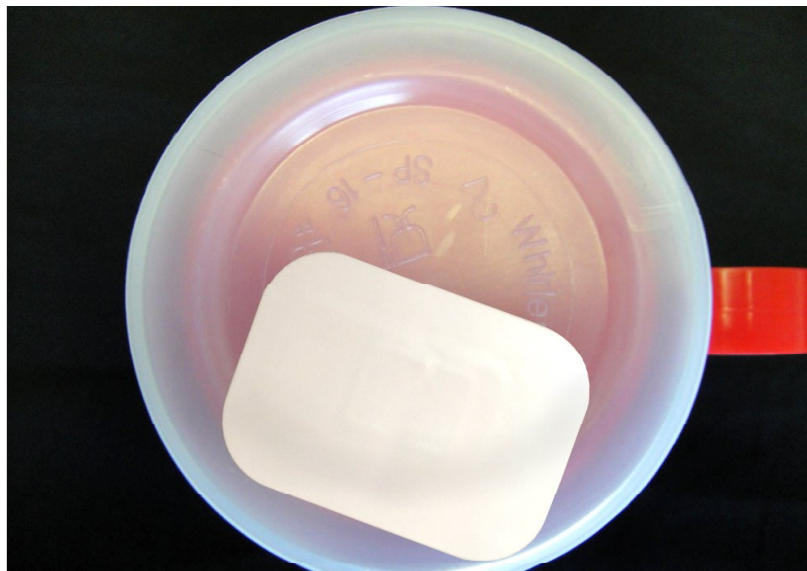
4.3.1) The correct way

This example demonstrates the correct placement of the tag on the bottom of the cup. The goal should be to center the white tag on the exact center of the cup.



4.3.2) The incorrect way

This example demonstrates the incorrect placement of the tag on the bottom of the cup. Notice the tag does not need to be far from center to be considered incorrect.



The ValidFill System: Basic Operation Guide

5.1) The On/Off/Bypass Key Switch

Located on the side of the soda dispensing machine, you will find a key switch labeled 'On/Off/Bypass' as shown in the image below.

This key switch operates the power to the machine itself and gives you the option to run the machine in two modes. On/Bypass

The 'On' mode of operation: When the key switch is turned to the 'On' position, the machine and all of its internal RF components are fully functional. It will read tags, record data, and do all of the other features that come with the ValidFill system.



The 'Bypass' mode of operation: When the key switch is turned to the 'Bypass' position, the machine functions just like any other soda dispensing machine. It bypasses all of the ValidFill components. This function is set up as a backup in case a component stops working. It can also be used to allow free soda dispensing.



5.2) Turning On the System

The Black Box (or CPU) is the brain behind the ValidFill RFID system. In order for the machine to run properly, the keyswitch needs to be in the On position. To turn the machine on, locate the keyswitch, insert the key, and turn the key to the left until it is in the ON position. You should see the screen turn on and the system should start booting. *If the machine does not boot please refer to the trouble shooting guide in the next section.

5.3) Rebooting the System

It might be necessary at some point to reboot the machine. To do this, you simply insert the key into the machines' key switch, turn the key to the right until it is in the OFF position. The machine will immediately shut down. Allow 10 seconds for the machine to completely turn off and then restart the machine. To turn it back on, follow the steps for turning on the system as detailed above.

The ValidFill System: Troubleshooting

6.1) Basic Troubleshooting Guide

Should your system stop operating properly, check the power cord to make sure it is plugged into the UPS or power strip. If the optional UPS is used with your system, be sure that the UPS is turned on.

After checking the power source, attempt to restart the system by restarting the system (see section 5.3 on page 17)

If after doing the above, the system is still working improperly, please proceed to the advanced troubleshooting guide.

6.2) Advanced Troubleshooting Guide

6.2.1) The Soda Machine will not turn on.

1. Is the machine power cord plugged into the power source?

YES – Proceed to next step.

NO – Plug in the power cord and attempt to start the machine.

2. Is the power source functioning properly?

YES – Call ValidFill for Support.

NO – Perform any needed steps to restore power source.

6.2.2) The monitor is black but the machine is running.

1. Is the soda machine's key switch in the 'ON' position?

YES – Take the hood off and ensure that the monitor's VGA and power cables are still plugged in and make sure that the monitor is turned on.

NO – If there is still no display on the monitor, call ValidFill for support.

6.2.3) None of the soda valves will dispense.

1. Are you using a valid cup with an RFID tag on it?

YES – Proceed to the next step

NO – Use a valid cup with an RFID tag on it and retry. If the problem persists, continue to the next step.

2. Turn the machine key switch to the 'Bypass' position. Do the valves begin to work?

YES – Proceed to the next step

NO – Check the machine's direct power source to make sure it is plugged in. If the power cord is plugged in and the valves do not work in 'Bypass', call ValidFill for support.

3. Is the black DB9 serial cable plugged into 'COM 1' (labeled 'B' in the Black Box Cable Location Diagram in Appendix B)?

YES – Proceed to the next step

NO – Plug in the serial cable and restart the machine.

6.2.4) One or more but not all, of the soda fountain valves will not dispense (If none of the soda valves are dispensing, see section 4.2.3).

1. When you turn the soda machine key switch to 'Bypass', do all the valves begin to work?

YES – Ensure that all of the antenna cables are plugged into their proper locations on the back of the Black Box. (The ID number on each cable should correspond with the ID number of the antenna port on the back of the Black Box.) If so, call ValidFill for support.

NO – Call ValidFill for support.

7.0) The ValidFill System: Service & Repair Procedures

7.1) Replacing the Black Box

1. Turn off the machine by inserting the key into the On/Bypass/Off keyswitch and turn the key to the right unit it rests under the off position.
2. Remove the 4 screws on each side of the hood that mount the hood to the machine.
3. Remove the hood by lifting it straight up and then rotating the hood forward and pulling it away from the machine far enough to disconnect the VGA, Audio, and Power cables at the hood.
4. Remove the C Base to access the cables connecting the black box to the machine by unscrewing the two screw on the front and removing the C Base.
5. Disconnect all cables from the Black Box including the RF cables connected to the underneath.
6. Remove the 3 screws that secure the black box to the machine and remove the black box. **save the 3 screws*
7. Remove the replacement black box from its packaging.
8. Install replacement black box to the machine using the 3 screws from earlier in the previous location.
9. Reattach all cables to the previous locations.
10. Remove thumb drive from the old black box and insert it into the single USB slot on the new Black Box.
11. Reattach the C Base to the front of the Black Box insuring that the ground wire is connected to the top screw identified with a ground label.
12. Replace hood insuring all cables are reconnected.
13. Secure the hood with the 4 screw you removed in step 2.
14. Turn the machine on by inserting the key into the On/Bypass/Off keyswitch and turning the key to the left unit it rests under the on position.

7.2) Replacing the Floating Drip Tray (individual parts)

The Floating Drip Tray

1. Remove the two screws on either side of the back splash
2. Lift the back splash straight up and rotate the bottom forward and pull down to remove it.
3. Remove the machine back splash.
4. Disconnect the RF cable at the RF connector on the wire of the part you are going to replace.
5. Remove the 4 screws securing the component to the back splash and remove the part.
6. Place the new component in the previous location and secure it using the 4 screws you removed in step 5.
7. Reconnect the RF cables
8. Replace the back splash.
9. Secure the back splash with the two screws removed in step 1.
10. Test the component by placing a valid tag or cup on the component and performing a pour.

If tag or cup responds properly then you are finished. If you have any issues please review the steps.

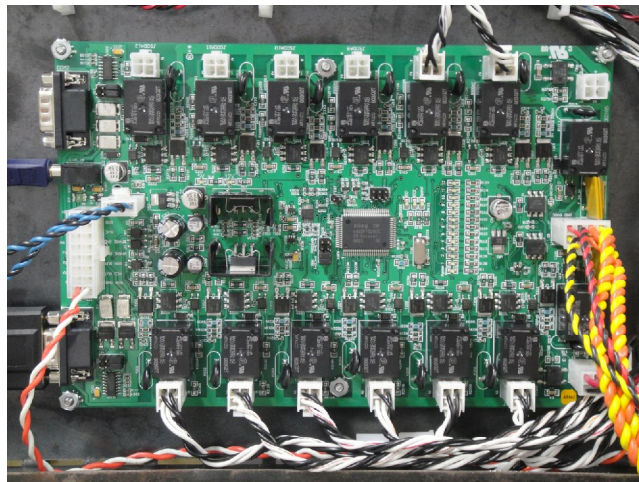
7.3) Replacing the IO Controller PCB



THE IO CONTROLLER PCB IS LOCATED IN A SERVICE ACCESS AREA. ONLY SERVICE PERSON EL WHO HAVE BEEN INSTRUCTED ABOUT THE HAZARD OF ELECTRIC SHOCK ASSOCIATED WITH THIS AREA SHOULD ACCESS IT.



DO NOT REMOVE THE BACKPLANE COVER UNLESS POWER TO THE MACHINE HAS BEEN DISCONNECTED.



1. Turn off the Black Box, turn the soda machine key switch to 'OFF' and unplug power to the machine.
2. Access the IO Controller PCB by removing the Hood and Backplane Cover from the RFID Dispensing Machine.
3. Access the back plane and locate the IO Controller PCB.
4. Unplug all wiring harness connectors from their housings on the IO Controller PCB.
5. Using a 5/16 nut driver, remove the locknuts holding the IO Controller PCB onto the Backplane.
6. Remove the IO Controller PCB and replace it with the new one.

7. Using the 5/16 nut driver, replace the locknuts to hold the IO Controller PCB securely to the Backplane.

8. Reconnect each of the valve wiring harnesses to their proper positions as defined below:

Black Stripe:	IO Controller PCB location - JSODA1
Brown Stripe:	IO Controller PCB location - JSODA2
Red Stripe:	IO Controller PCB location - JSODA3
Orange Stripe:	IO Controller PCB location - JSODA4
Yellow Stripe:	IO Controller PCB location - JSODA5
Green Stripe:	IO Controller PCB location - JSODA6
Blue Stripe:	IO Controller PCB location - JSODA7
Violet Stripe:	IO Controller PCB location - JSODA8

Some Models:

Gray Stripe:	IO Controller PCB location - JSODA9
Double Black Stripe:	IO Controller PCB location - JSODA10
Black & Brown Stripe:	IO Controller PCB location - JSODA11
Black & Red Stripe:	IO Controller PCB location - JSODA12

9. Perform quality control check.

Quality Check

DO NOT TOUCH CIRCUITRY OR WIRES DURING QUALITY CONTROL CHECK!

A. With the Key Switch still in the 'OFF' position, plug in the soda machine's AC power cord.

NOTE: The audible sound of the Ice Agitator should be heard right away.

B. Verify that the Backplane Power Supply LED is NOT illuminated.

C. Verify that the IO Controller PCB's 5V & 12V power indicator LED's are NOT illuminated.

D. Turn the soda machine's key switch to 'Bypass'.

E. Verify Backplane Power Supply LED turns ON.

F. Verify that both IO Controller PCB Power Indicator LEDs turn on.

G. Test each valve in 'Bypass' to ensure each valve opens when activated.

H. Turn the soda machine key switch to the 'ON' position.

I. Restart the Black Box.

J. Test each valve to make sure the valves do NOT open without an RFID tag.

10. Install the Backplane Cover.

11. Install the hood.

A. Connect the blue & black speaker wires to each speaker.

B. Connect the monitor power cable to the monitor.

C. Connect the VGA cable to the monitor.

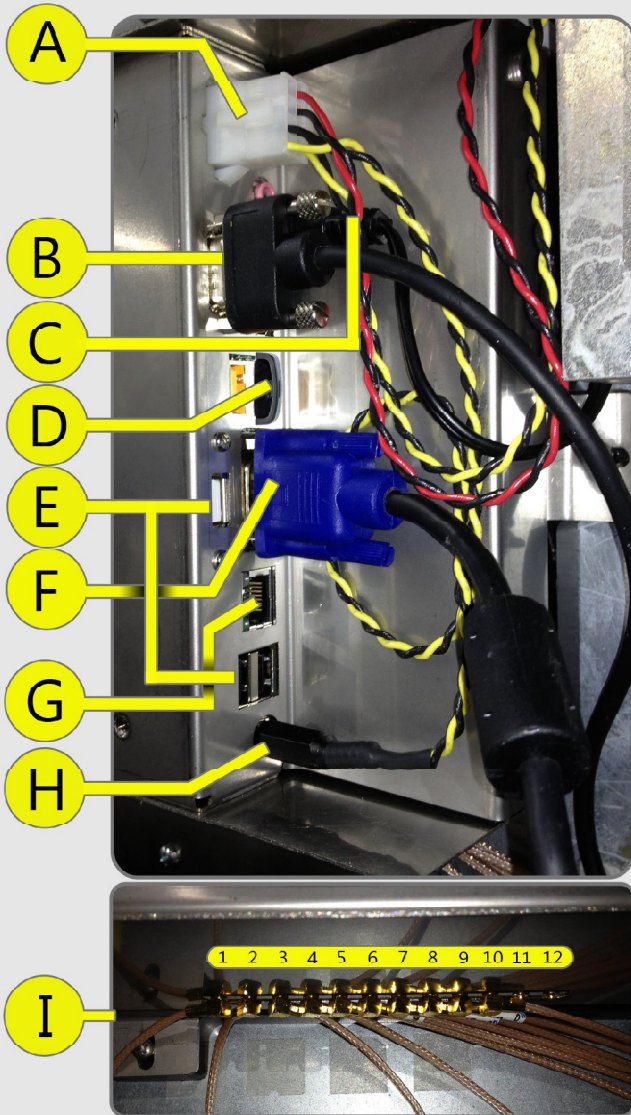
D. Make sure the monitor is turned on and place the hood onto the soda dispensing machine.










12. Send the old IO Controller PCB to ValidFill for testing.

Appendix A

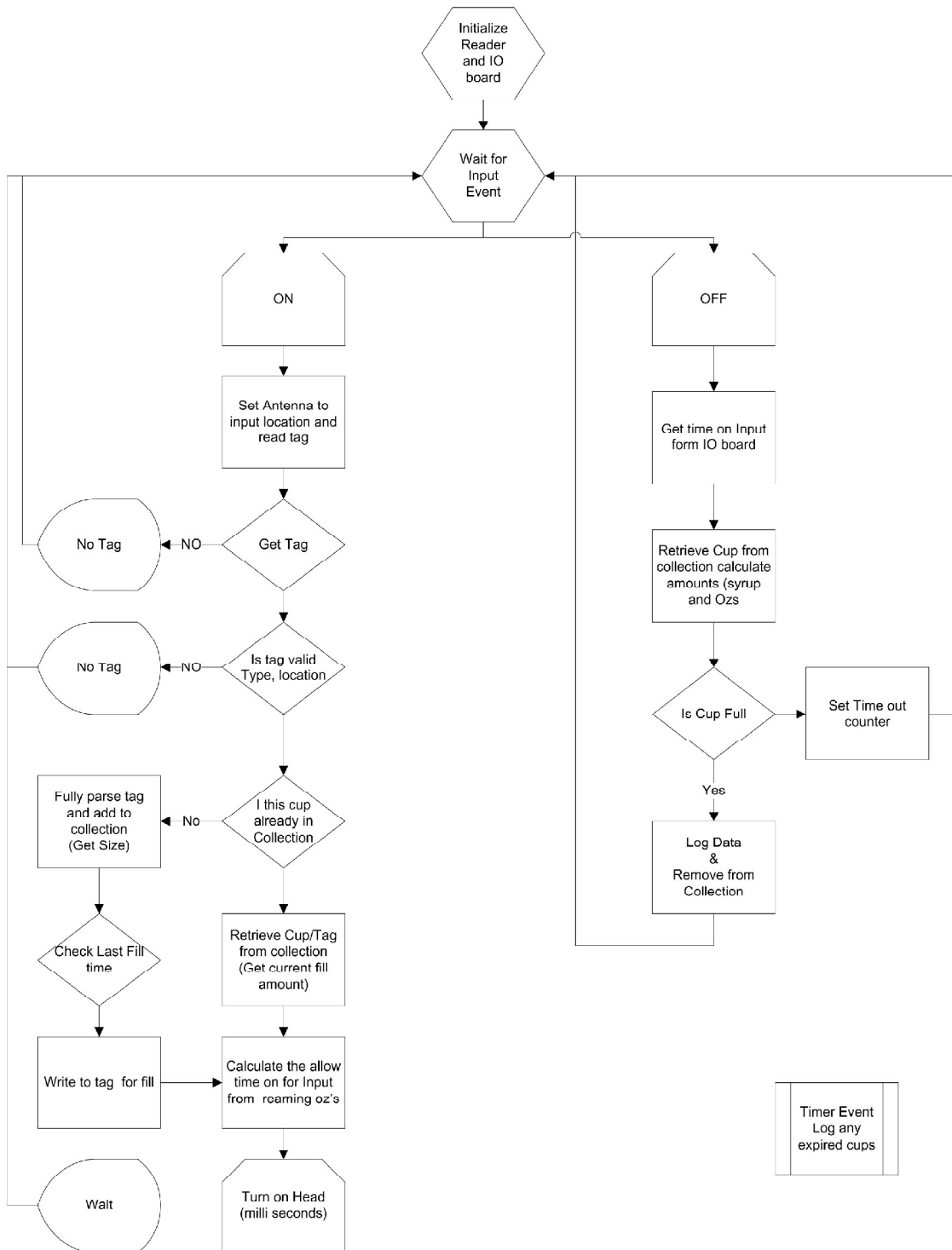
Cable Location Diagram

Located on the side and bottom of the Black Box



- A  Molex P8 - White 5V & 12V DC
- B  DB9 - Black IO Board
- C  TRS - Black Audio
- D  Nano Drive - Black Machine Configuration
- E  USB - Black Battery Backup/Cellular
- F  VGA - Blue Monitor
- G  CAT5 - Black LAN Network
- H  Power - black Black Box Power
- I  MCX - Gold RFID Antenna

Appendix B



General Statements:

Warning: Changes or modifications to this device not expressly approved by ValidFill, LLC could void the user's authority to operate the equipment.

FCC Specific Statements:

Class A Device:

"NOTE: This equipment has been tested and found to comply with the limits for a Class A digital device, pursuant to part 15 of the FCC rules. These limits are designed to provide reasonable protection against harmful interference when the equipment is operated in a commercial environment. This equipment generates, uses, and can radiate radio frequency energy and, if not installed and used in accordance with the instruction manual, may cause harmful interference to radio communications. Operation of this equipment in a residential area is likely to cause harmful interference in which case the user will be required to correct the interference at his own expense."

RF Exposure:

"This equipment complies with FCC radiation exposure limits set forth for an uncontrolled environment. This equipment should be installed and operated with minimum distance 20cm between the radiator and your body. This transmitter must not be co-located or operating in conjunction with any other antenna or transmitter."

LEGACY FOUNTAIN MACHINE

Standard Warranty

ValidFill, LLC warrants to the original purchaser of each new ValidFill RFID LEGACY FOUNTAIN MACHINE (“Product”) that all parts shall be free from defects in material and workmanship under normal use and service for a period during the Warranty Period. The Warranty Period for all parts will be 1 year from the date of startup or 90 days from shipment date, whichever comes first. During the Warranty Period, the sole and exclusive remedy of the buyer, and ValidFill LLC’s sole and exclusive obligation, shall be to repair or replace any parts of the Product found to be defective, subject to the conditions stated below.

Warranty Conditions

1. Warranty labor must be performed by the local ValidFill authorized service agent.
2. The equipment must be installed and operated in compliance with instructions provided by ValidFill, LLC.
3. Malfunctions or damage due to alterations, improper operation, neglect, vandalism, fire, acts of God or any situation beyond ValidFill LLC’s control are expressly excluded from this warranty.
4. ValidFill, LLC reserves the right to require that any parts covered under this warranty be returned to ValidFill prepaid and verified as defective upon examination.
5. Any damages resulting from shipment of the unit are expressly excluded. ValidFill LLC advises customers to carefully examine all shipments prior to acceptance and note all potential damage concerns on the appropriate shipping papers.
6. Excess labor charges resulting from security clearance procedures, safety training, etc., will not be covered by ValidFill, LLC and are the responsibility of the equipment owner.
7. This warranty is non-transferable and applies only to the original purchase of the Product.

THIS WARRANTY IS EXPRESSLY MADE IN LIEU OF ALL OTHER WARRANTIES, EXPRESSED OR IMPLIED, INCLUDING BUT NOT LIMITED TO ANY IMPLIED WARRANTIES OF MERCHANTABILITY OR FITNESS FOR A PARTICULAR PURPOSE OR WARRANTIES ARISING FROM COURSE OF DEALING OR USAGE OF TRADE. In no event will ValidFill, LLC be liable for any consequential, incidental, or punitive damages, whether arising under contract, warranty, tort, negligence, strict liability or any other theory of liability, including but not limited to loss of profits, loss of use of the Products, or loss of goodwill.

Notwithstanding whether any remedy fails of its essential purpose or otherwise, in no event shall ValidFill, LLC’s liability for any Products supplied hereunder exceed the purchase price paid by buyer to ValidFill, LLC for the applicable Products, regardless of whether the claim is based on contract, tort, warranty or any other theory of liability.

Questions concerning this warranty should be directed to ValidFill, LLC at 941-379-9858.

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